

The Energy Trade-Off

**A response to
Issues Paper
Office of Regulator-General, Victoria
February 2000**

This submission by Co-operative Energy Ltd welcomes the ORG Issues Paper as providing a useful basis for responding to distribution pricing in the period 2001-5.

The submission addresses the following issues:

- Consultation – the inadequacy of the consultation process and outcomes.
- ORG's CCC – the disappointing number of submissions generated by ORG's Customer Consultative Committee.
- Theory & Practice – criticises the theoretical emphasis of the consultation process.
- Reality Check – the reality queries raised by the Dougan Report.
- Redlining – the need to identify and address the problem of redlining.
- Fundamental Cause – asks why the consultation process has focussed on theory and denied reality
- Level of Service – the relationship between distribution pricing and level of service.
- Energy Demand – the relationship between distribution pricing and demand management.

Consultation

Initially, it should briefly be noted that on p 2 of the Issues paper it is claimed that: "The Office has undertaken extensive consultation on a range of matters including the timetable and framework to be adopted by the Office, the preparation of submissions and information to be provided by distributors as well as specific issues relevant to the Price Review." There may have been extensive consultation with a select group of industry and subsidised community representatives but the number of submissions received in response to the consultation papers indicates the contrary – that there has not been an extensive response throughout the consultative process. Co-operative Energy Ltd has undertaken a limited analysis of the number of submissions received and respondents to the six consultation papers:

Consultation Papers	Number of Responses (Submissions) *
No 1	18
No 2	14
No 3	13
No 4	10
No 5	5
Finalising the Framework	3
Total Number of submissions	63

Four groups made one submission to papers 2 & 3 and one group made one to 2 & 3 and Finalising the Framework.

These 63 responses to the 6 consultation papers were received from 20 respondents as follows:

Respondent Group(s)	Total No of Respondents	Total No of submissions & as a % of all Responses
Distribution businesses	5	27 (46.55%)
Other utility	3	3 (5.17%)
Co-operative Energy Ltd	1	5 (10.20%)
Energy Action Group	1	5 (8.62%)
Community service agencies	3	3 (5.17%)
Academics	3	5 (8.62%)
Other Private Sector	3	4 (6.89%)
Government Agencies	2	4 (6.89%)
Politicians	2	2 (3.44%)
Totals	20	58

We have previously raised our concerns about this limited response to the distribution pricing review in previous submissions. This is an important issue for it sets up the basis for the eventual regulatory regime for a key issue will be whether there was an extensive consultation process prior to the establishment of this regime. There has not been and it cannot be realistically claimed that the eventual regime will be established after an extensive consultation process.

It would be more realistic for ORG to clearly detail the consultation process it undertook and who responded to what issues. It would be inappropriate for ORG to assume a surrogate role of defining for consumers our interests and needs and, therefore, concluding implicitly and/or explicitly that the lack of responses from consumers is irrelevant – when it is central to a credible consultation.

ORG's CCC

It needs to be particularly noted that the members of ORG's Customer Consultative Committee have provided no or a minimum of submissions – with the exception of the Energy Action Group:

Committee Members	No of submissions to distribution pricing review
Australian Chamber of Manufactures	Nil
Consumers' Federation of Australia	Nil
Energy Action Group	4
Environment Victoria	Nil
Financial & Consumer Rights Council	1
Property Council of Australia	Nil
Victorian Employers' Chamber of Commerce and Industry	Nil

Victorian Council of Social Service	1
Victorian Farmers Federation	1

The total number of submissions from the nine members of the Customer Consultative Committee has been 7 – with 57.14% from the Energy Action Group. This does raise serious questions about the effectiveness of the Customer Consultative Committee and what ORG and/or the Government could and/or should do about this situation.

This is a disturbing situation as ORG claims that the Committee has a vital role in advising the Office on customer issues and needs. Given the number of submissions from members of the Committee during the consultative process, this would suggest that the Committee members are not adequately performing the vital role of advising the Office on customer issues and needs. It is all very well for ORG to state that the Committee has a vital role when in reality the Committee appears to have abdicated this role as indicated by the submissions generated by the Committee's members.

Theory & Practice

The consultation process has predominantly been a theoretical exercise about such issues as:

- Efficiency carry-over and efficiency gains.
- Real pre-tax weighted-average cost of capital.
- The forward and the reverse transformation.
- The full or partial glide path.

Interested parties have been invited to respond to the Issues Paper. This will be followed by a series of public forums – to provide interested parties with an opportunity to debate the key issues relevant to the price review.

The distribution pricing review has proceeded on two levels:

- At a theoretical level by the regulators and distributors.
- At a practical level by end-users.

What ORG has not even attempted to achieve is a reconciliation of the “theoretical” with the “practical.” In a consultation process the onus is on ORG to attempt a reconciliation of the views of participants. In the absence of a reconciliation that is transparent, it cannot be assumed that ORG has fairly and objectively assessed distributors proposals and public comments and submissions.

The test of fairness and objectivity is transparency – an open process of publicly assessing proposals, comments and submissions. The only transparent process is the series of ORG papers which have basically commented on distributor proposals and not the specifics of public comments and submissions. While the process has maintained an ongoing reference to consultation opportunities but simply receiving public comments and submissions does not verify the consultation process. A consultation process is challengeable when end-users have to rely on affirmations that their submissions have been fairly and objectively assessed.

What benefits can be achieved with what efficiencies is very difficult to measure and this needs to be acknowledged. It includes an examination of short and long-term costs and benefits and measures these is also difficult because of different legislative and regulative conditions.

In not explicitly identifying the service and price trade-offs ORG has neglected its own following objective: protect the interests of consumers with respect to electricity prices and the safety, reliability and quality of electricity supply.

These trade-offs also need to be considered in the context of their being regulatory-driven, utility-driven and consumer driven.

Regulatory-driven trade-offs are those which are based on the legislative and regulative demands placed on utilities and this could vary with governments and their policies. Utility-driven trade-offs critically depend on the ownership structure of the utilities and this creates particular competing priorities for a utility that has to deliver dividends to its investor-owners.

Consumer-driven trade-offs are the choices consumers are willing to make e.g. lower electricity costs to allow their load to be cut when required to maintain system reliability.

Reality Check

This leads us to an examination of the reality of the consultation process. Generally, the Issues Paper does not sufficiently address the key issue of trade-offs for consumers and the point at which there are what kind of trade-offs with what consequences. This is an issue that Co-operative Energy Ltd has consistently raised during the consultation process – the need for ORG to identify and specify the trade-offs between pricing and service. The Issues Paper continues the ORG pattern of substantially ignoring these trade-offs.

For Co-operative Energy Ltd one of the most important submissions to the distribution pricing review has been the Dougan Consulting report to the councils of:

Buloke Shire
Hindmarsh Shire
West Wimmera Shire
Yarriambiack Shire

The purpose of the report is stated as being: "to present an initial summary of the issues perceived by the community with the electricity supply as recorded at the Public Meetings and the responses to the Questionnaire."

It is further stated: "We understand that the Shires consider that unless the rural community combines and takes a stance regarding the ever increasing and debilitating costs and decreasing services to country Victoria and specifically to the rural and remote rural communities that are the backbone of the Shires, they will be further disadvantaged in attracting new investment and generating new growth in these areas. Rural and remote country Victoria has seen an ongoing escalation of prices for all basic commodities in recent years and to a greater extent degradation of basic services to the country community. Substantial reduction in electricity supply quality, reliability and fault response services including the inability of the supply systems to cope with any load growth has had a severe impact on the rural community in recent years."

What the Dougan Report succeeds in doing is provide a reality check on the theoretical posturing of the Office of the Regulator-General, Victoria, and the distribution companies during the consultation process. The Dougan Report is a challenge for ORG to address specific concerns about the number of supply interruptions, frequency of supply interruptions, fault response times, duration of interruptions, telephone service and network capacity and how the pricing regime for 2001-5 will impact on these in terms of what service standards and what trade-offs are involved in achieving a standard more acceptable to end-users and their communities. During the consultation process similar challenges have been made with varying levels of quality and quantity in submissions from:

Co-operative Energy Ltd
Energy Action Group
Financial & Consumer Rights Council
National Party (Victoria)
Labor Party (Victoria)
Victorian Farmers Federation
Victorian Council of Social Service

Redlining

The Dougan Report touches on the issue of redlining.

Redlining is the practice of discriminating against neighbourhoods and/or geographical areas and/or groups of citizens.

The issue in a contestable market is whether redlining will continue and in what form. For retailers, for example, this could include avoidance marketing – avoided marketing to low income and rural consumers.

For retailer redlining, the appropriate response is to prevent electric suppliers from refusing to supply electricity and refusing to negotiate to provide services.

Redlining is also relevant to distribution company pricing and service - what capital expenditure and operation and maintenance programs are developed in what areas for which consumers.

ORG does not provide the basis of a disaggregated geographical analysis of distribution company capital expenditure and operation and maintenance programs.

Fundamental Cause

Co-operative Energy Ltd has reflected on the fundamental cause of this failure – seeking to go beyond peripheral explanations.

Co-operative Energy Ltd has observed developments in the UK and the proposed Utilities Bill introduced by the U.K. Government in the House of Commons. This has convinced us that a key issue for any regulator has to be the legislative framework for regulation and that in Victoria the legislative framework is inappropriate in attempting to balance competing interests – rather than establishing the primacy of consumers.

In the UK the Government has signalled to the regulator OFGEM that it is concerned with advancing the interests of consumers through social and environmental objectives and a new Utilities Bill provides the Secretary of State with reserve powers to eliminate or reduce less favourable treatment e.g. a group of low income consumers who are treated less favourably than other customers in charges for electricity and gas.

The U.K. Government's Utilities Bill is based on a determination to ensure that the utility regime serves the needs of consumers – placing a new primary duty on the regulator to protect the short and long term interests of consumers, wherever possible and appropriate through promoting competition. The UK Government has specified that the interests of consumers should be interpreted to include prices and condition of supply, continuity and availability of supply, quality of supply, and where relevant, the range of services offered.

The absence of a consumer primacy mandate is perhaps critical to how ORG considers the limited response from consumers to the distribution pricing review – including the limited responses of its own Customer Consultative Committee.

Level of Service

The Issues Paper does address level of service but fails to adequately identify the trade-off choices and consequences for consumers because the analysis is too general and abstract.

The Productivity Commission has noted, for example, that Japan has a more reliable power system and that the factors contributing to this have included high network densities, a relatively high proportion of underground distribution lines and the security built into the system through extensive capital investment. The Productivity Commission has noted, however: “this reliability comes at a cost. As noted in the previous chapter, residential consumers in Japan pay around three and a half times more, and industrial customers pay more than four times more, for their electricity relative to their Australian counterparts.”

It is necessary to be clear about definitions. It is not sufficient, for example, for everyone to affirm their support for system reliability. It is essential to identify the definition and scope of reliability, the criteria for assessing reliability and the responsibility for reliability.

The factors that affect a distribution system’s reliability include:

- The length of distribution and transmission lines.
- The proportion of overhead versus underground power lines.
- The geographic area covered by a particular system.
- Susceptibility of transmission and distribution systems to environmental influences.
- The age of the distribution and transmission system.
- The different types and numbers of interconnections.
- The ability of the system to withstand sudden disturbances.
- The capital expenditure programs of distribution companies.
- The maintenance programs and practices of distribution companies.
- The balance between economic gain for investors and reliability for consumers.

We need to know, for example:

What is the maintenance strategy and the extent it is fault-based, condition-based, time-based and use based?

Are the maintenance strategies and practices benchmarked?
What is the ongoing regular preventative maintenance inspection process?

We also need to know:

Is there short and long-term planning?
Does this include the strategies for and effects of demand-side management programs? Are aggregate forecasts of demand prepared and are these based on consumer surveys, load factor and energy competition?
Does the consideration of demand management strategies include energy utilisation initiatives, specific marketing initiatives and environmental considerations?

Ultimately, distribution system reliability is a product of the decisions, policies and practices of the owners and management of the distribution companies. The decisions which impact on system reliability are:

- Adequacy and security performance testing.
- Acceptable system response.
- Prevention of system instability.
- System protection philosophy.
- Measures to facilitate system restoration.

The North Carolina Utilities Commission is required to analyse the probable growth in the use of electricity and the long-range need for future generating capacity for North Carolina. The Iowa Utilities Board requires each utility to have an inspection and maintenance plan.

On p 5 it is noted that ORG “invited distributors to propose a base-case level of service as part of the Guidelines for the Preparation of Submissions” and “put forward one or more higher service standard options for consultation” and “If significant expenditure is proposed to improve service levels, distributors’ were asked to demonstrate customers’ willingness to pay for those improvements.”

It is disappointing, therefore, that the base-case level of service has encouraged distributors to equate the base-case level of service with “only marginal improvements in reliability in 2001 compared to their average 1997 and 1998 performance. No further significant improvement in performance is proposed over 2001 to 2005 for their base-case service proposals, notwithstanding proposals for significant increases in capital and maintenance expenditure in 1999 and 2000 that are to be generally maintained through to 2005.”

Instead of linking improved service levels with consumer willingness to pay ORG should have asked the distribution companies what improved service levels were being proposed and what impact these would have on distribution pricing.

In contrast, the New Jersey Board of Public Utilities has argued the need for “incentives for cost efficiency and related benefits for consumers that may not otherwise result from traditional rate base/rate of return regulation of these services. Within such proposals we would explore mechanisms which would incent the distribution utilities to explore and implement all available measures to minimize the cost of the distribution system subject, of course, to service quality criteria. To that end, the distribution companies should begin to gather distribution cost data to assist in such least cost planning studies.”

Improved levels of service should not necessarily depend on the willingness of consumers to pay for these improvements.

In brief and in general, the distribution company proposals for service reliability are neither realistic nor acceptable and the price-service offerings do not strike an appropriate balance between price and service standards. The base-case level of service should have been based on significant improvements in service levels.

It is noted on p 7 that: “In terms of service reliability, the distributors have achieved significant improvements in state-wide average minutes off supply compared to the performance of the former State Electricity Commission (SEC) in 1993-94.” But, then, on p 8 it is noted that “the actual performance of the Victorian distributors over the period has been worse than in other jurisdictions.” The key point of reference here is current performance compared with other jurisdictions rather than a historical comparison with the SECV.

On p 9 ORG has proposed: “The Office considers that the appropriate level of service to apply from the start of the 2001-05 regulatory period is that which is broadly representative of current service delivery, with sufficient allowance for improvements between now and 2001.”

This ORG proposition is not acceptable. As subsequently argued on p 12: “Given the increased expenditure forecast by most distributors over the 1999-2000 period, it is arguable that the base-case reliability targets should reflect better reliability than those presented in the distributors’ proposals.” This should be the minimum basis for base-case improvements.

ORG notes on p 12 that; “The distributors have generally assumed no improvement in base-case reliability over the period with respect to total minutes off supply and the frequency and duration of interruption.” This assumption is not acceptable.

The proposed absence of reliability improvement is unreasonable. The distributors alternative service proposals are preferable to their base-case position because they would facilitate more reliable electricity.

In its review of distribution pricing, the NSW Independent Pricing and Regulatory Tribunal has also failed to adequately address the issue of service standards. Commenting on p 23 as follows: "The Tribunal is aware that the industry supports an incentive mechanism for service reliability. It also recognises the potential merits of incorporating this sort of incentive mechanism into the economic regulatory framework. However, the framework for measuring service standards and targets is not developed to a level that the Tribunal believes adequate to enable it to incorporate an incentive mechanism based on those measures."

Demand Management

Demand management is fundamental for without it there can be significant costs on consumers and political repercussions.

The Issues Paper does not appropriately identify the relationship between the distribution pricing review and the following:

Distribution losses

Energy efficiency

Distributed generation

Renewable energy

These issues are not necessarily obviously relevant to distribution pricing but they have significant impacts on network reliability and demand and, therefore, their development impacts on distribution system pricing and service. The recent power crisis in Victoria would indicate that there is a challenge to increase generation capacity and the Victorian Government has requested a review of the State's generation capacity. Equally applicable to this challenge, however, is distributed generation, net-metering, renewable energy and energy efficiency and the role of distribution companies.

Distribution Losses.

On p 15 ORG discusses electrical losses in the distribution system as significant and that it is unclear "whether distributors have effective financial incentives to optimise the level of distribution losses, and so reduce the overall cost to customers."

The ORG statement is puzzling. First, it is recognised that distribution losses are significant and yet ORG is unable to establish how the distributors intend to minimise distribution losses. It is noted that United Energy, for example places distribution losses at 7.2%. While ORG intends to establish benchmarks for losses for 2001-05 and to monitor and publicly report on these, distributors should be required to minimise losses as part of price control for 2001-05. It is not that there is an argument for this as suggested by ORG but that minimising distribution losses is consistent with efficiency. And reducing costs to consumers.

Consumers should not have to pay for distribution losses when these could be reduced through appropriate policies and programs by distributors. Second, ORG is emphasising the need for an appropriate financial incentive to encourage the companies to minimise distribution losses. The issue is more than just one of financial incentives. Distributors should minimise distribution losses and this should be a requirement of the pricing controls for 2001-05.

On pp 14 – 15 of Energy Efficiency: A Consultation Document (July 1999) OFGEM discussed distribution losses noting that there has been concern that there are insufficient incentives to reduce losses and that as part of the present distribution price control the incentive on companies to reduce distribution losses was increased by roughly doubling the benefit retained by companies from reducing losses. OFGEM has asked its technical consultants to assess the likely affect of each company's capital expenditure programme on the level of electrical losses – to help establish whether each distribution business is taking reasonable steps to minimise losses.

Energy Efficiency

A key issue for distribution pricing is the issue of energy efficiency – facilitating efficient use of energy by distributors and end-users. The distribution utilities should, therefore, be required to report on their policies and programs for reducing future loads. In North Carolina, for instance, are expected to report to the North Carolina Utilities Commission on their load control policies and programs.

On pp 37 – 39 The Greenhouse Challenge Workbook: Electricity Supply Business has identified the following actions

- Plan and construct transmission and distribution networks to minimise losses.
- Optimise operation of the transmission network.
- Reduce substation losses.
- Reduce above-nominal consumer voltages.
- Reduce number of voltage steps.
- Reduce phase imbalance in low voltage networks.
- Reduce distribution transformer losses.
- Correct power factors.
- Introduce embedded generation.
- Replace uneconomic and high loss feeders by use of stand alone Remote Area Power Supply (RAPS) systems.
- Minimise losses of sulfur hexafluoride (SF) from switchgear.

Demand-side management has a critical contribution to make towards system reliability – and power shortages. Broadly defined, demand-side management is

any effort by a utility to change electricity use to benefit both the utility and the consumer. Demand-side management can increase reliability by decreasing the demand for power. Demand-side management, therefore is integral to the distribution system. DSM is even more important in a market-driven industry.

On p 13 of a final report of a demand management project of the State Electricity Commission of Victoria and the Department of Industry, Technology & Resources argued in 1990: "The principal decision criterion is the total societal cost of meeting the given level of society's energy service needs. The intention is to minimise this cost by a strategy which would be flexible enough to achieve minimisation under a range of futures. Other decision criteria cover such factors as the level of CO2 emissions and the impact on SECV pricing and its financial results.

On p 32 the Greenhouse Challenge Workbook Electricity Supply Business has identified the following possible actions:

- Plan and construct transmission and distribution networks to minimise losses.
- Optimise operation of the transmission network.
- Reduce substation losses.
- Reduce-nominal consumer voltages.
- Reduce number of voltage steps.
- Reduce phase imbalance in low voltage networks.
- Reduce distribution transformer losses.
- Correct power factors.
- Introduce embedded generation.
- Replace uneconomic and high loss feeders by use of stand alone Remote Area Power Supply (RAPS) systems.
- Minimise losses of SF₆ from switchgear.

Anyone can take the responsibility for demand management. In a competitive market, however, there may be conflicting responses as to who is responsible for demand management e.g. energy suppliers, distribution companies, businesses that manufacture appliances and equipment, retailers of appliances and equipment, individual consumers and government.

In the UK on p 15 of Energy Efficiency: A Consultation Document (July 1999) OFGEM, for instance, has noted that one potential means of reducing the costs of distribution is "to encourage demand management by suppliers and their customers in areas where system reinforcement might otherwise be required. The practical scope for such action is unclear. However, under new arrangements distributors must for the first time alert suppliers to areas where any demand growth is difficult to meet. This provides a new opportunity for suppliers together with distributors to target energy efficiency measures where they can have most beneficial effect."

As distributors of energy, distribution companies do have a responsibility for demand-management. The problem with demand-management for distribution companies is that the more successful they are the less their energy revenue. On p 19 of the Ecologically Sustainable Development Working Group's report, Final Report – Energy Production, it is suggested that with this outcome “the community is better off but the utility is worse” and, therefore, “tariffs may have to rise in the short-term to reflect increased average costs as sales fall.”

Buckeye Power is a generation and transmission co-operative in the USA with 27 member-co-operatives and 283,097 customers in 1992.

Buckeye Power has a Residential Load Control Program under which 81,000 residential electric water heaters and 2800 residential space heating systems are controlled during peak demand periods. The primary goal of the program is to prevent exceedance of the historical record peak demand. Radio switches are installed on water heaters and electric space heating equipment. Through a satellite system signals can be sent to switch off controlled appliances. It has been estimated that each water heater controlled saved 1 KW – 81 MW in a year.

The Sacramento Municipal Utility District in California, USA, has a Residential Peak Corps Program which provides peak clipping/load shifting through remote cycling of central air conditioning during selected summer afternoons.

The Program was initially piloted in 1978. Full scale implementation began in 1979 and has continued until today.

There are three options for program participants with varying discounts on June through September electricity bills. There is a bonus for consumers signing up for the program and a season-end bonus for staying-in the program through the entire summer.

There are nearly 100,000 participating customers – 45% of eligible customers – enabling the control of more than 100 MW of peak demand. Through the Program in 1993 the peak capacity savings was 12.1 MW.

Embedded Generation

OFGEM is examining the particular problems being experienced by embedded generators – often but not exclusively renewable. OFGEM has suggested that further work may be necessary to ensure that the charges made by distribution businesses reflect appropriate costs and benefits to distributors of embedded plant.

Distributed Generation

Distributed generation is an alternative to the centrally-based power plants which dominate electricity supply in Victoria.

As defined by the USA Consumer Energy Council of America Research Foundation: Distributed energy is the generation, storage, or demand-side management (DSM) devices, measures, and/or technologies that are connected to or injected into the distribution level of the transmission and distribution grid, e.g below the bulk power transmission level.

Distributed generation has the following advantages:

- Reducing the load of transmission and distribution systems.
- Enabling the deferral or avoidance of major capital equipment upgrades.
- Improve local power quality.
- Reducing transmission and distribution system losses.
- More closely match electricity supply and demand.
- Lower environmental costs.
- Reduce price volatility.

The California Public Utilities Commission is considering the impact of distributed generation on distribution system planning and operations and this includes consideration of the following:

- What changes in distribution system operations may be needed with respect to deployment of DER
- How the utility distribution companies can identify the levels of future deployment of distributed energy resources (DER), and
- How this forecast can be incorporated into the distribution system planning process.

The distribution pricing review could choose to facilitate or impede dispersed generation. The choice is for regulative provisions and policies which encourage the development of dispersed generation.

Renewable Energy

Alternative renewable sources of energy are available and decrease dependence on the grid, provide a localised power source for distributed generation, provide surplus energy for the grid and increase system reliability:

- Bioenergy
- Geothermal
- Hydrogen
- Hydropower
- Ocean
- Solar
- Wind

Net-metering allows consumers to offset their electricity consumption with their own generation and encourages the development of renewable energy. In 1997 the Government of Maryland, USA, passed net-metering

The distribution pricing review should examine whether pricing policies of the transmission and distribution system penalise intermittent, low capacity factor, distant renewable generators.

Conclusion

The Issues Paper is the inevitable outcome of a flawed consultation process and ORG's determination to ignore this reality. This has jeopardised the rigor and robustness of the distribution pricing review.

The structure and process has been dominated by theoretical posturing and a Customer Consultative Committee that itself has generated very few submissions, and has ignored the realities of the electricity market and the practicalities raised by end-users. The problem of redlining has not even been identified yet alone confronted.

The flawed structure and process is an inevitable outcome of a legislative and regulative framework that does not give primacy to the consumer.

If ORG had attempted to reconcile practice with theory, then, this would have involved a detailed examination of trade-offs in terms of level of service and demand management. That this examination is not provided suggests there has been a regulatory trade-off with ORG imbuing the distribution pricing review with its own assumptions about reality.

At a minimum, ORG should require significant improvements in network reliability based on a base-case level of service. Furthermore, ORG should also mandate a decrease in distribution pricing for all consumers. ORG should also require the distribution companies to define and articulate their policies and programs for distribution losses, distribution generation, renewable energy and energy efficiency.

Contestability and competition does not necessarily equate minimal or no regulation. Appropriate regulation necessitates taking the issue of market power seriously.

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Vermont Public Utilities Commission

Distributed Utility Planning: An Introduction to Concepts and Issues

30 April 1999

Washington Water Power

Distribution Charge & Market Transformation Programs

Profile 126

1993

ICA Statement on the Co-operative Identity

Definition

A co-operative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise.

Values

Cooperatives are based on the values of self-help, self-responsibility, democracy, equality, equity and solidarity. In the tradition of their founders, cooperative members believe in the ethical values of honesty, openness, social responsibility and caring for others.

Principles

The cooperative principles are guidelines by which cooperatives put their values into practice.

1st Principle: Voluntary and Open Membership

Cooperatives are voluntary organizations, open to all persons able to use their services and willing to accept the responsibilities of membership, without gender, social, racial, political or religious discrimination.

2nd Principle: Democratic Member Control

Cooperatives are democratic organizations controlled by their members, who actively participate in setting their policies and making decisions. Men and women serving as elected representatives are accountable to the membership. In primary cooperatives members have equal voting rights (one member, one vote) and cooperatives at other levels are also organised in a democratic manner.

3rd Principle: Member Economic Participation

Members contribute equitably to, and democratically control, the capital of their cooperative. At least part of that capital is usually the common property of the

cooperative. Members usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any or all of the following purposes: developing their cooperative, possibly by setting up reserves, part of which at least would be indivisible; benefiting members in proportion to their transactions with the cooperative; and supporting other activities approved by the membership.

4th Principle: Autonomy and Independence

Cooperatives are autonomous, self-help organizations controlled by their members. If they enter into agreements with other organizations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their cooperative autonomy.

5th Principle: Education, Training and Information

Cooperatives provide education and training for their members, elected representatives, managers and employees so they can contribute effectively to the development of their cooperatives. They inform the general public – particularly young people and opinion leaders – about the nature and benefits of cooperation.

6th Principle: Cooperation among Cooperatives

Cooperatives serve their members most effectively and strengthen the cooperative movement by working together through local, national, regional and international structures.

7th Principle: Concern for Community

Cooperatives work for the sustainable development of their communities through policies approved by their members.

Electric Co-ops USA

Electric co-operatives in the USA are member-owned electric utility businesses, incorporated under the laws of the states in which they operate, established to provide at-cost electric service and are governed by boards of directors elected by members.

- 875 electric distribution and retailing co-operatives serve 32 million people in 46 states.
- 60 generation & transmission co-operatives are owned by their member distribution and retailing co-operatives.
- Electric co-operatives serve 11% of the nation's population.
- Electric co-operatives own and maintain nearly 45% of the electric distribution lines in the USA
- Electric co-operative assets exceeded \$62 billion USA in 1997.
- Co-operatives serve an average of 5.8 consumers per mile of line.

Many electric co-operatives are involved in community development and revitalization projects e.g.

- Small business development
- Job creation
- Improvement and/or management of water and sewer systems
- Assistance in the delivery of health care
- Assistance in the delivery of educational services

In 1997 there were 3190 electric utilities in the USA:

- 935 co-operatively owned
- 242 investor owned
- 2013 publicly owned

The NRECA has been involved in the following formations:

- 1954 National Telephone Cooperative Association
- 1969 National Rural Utilities Cooperative Finance Corporation
- 1986 National Rural Telecommunications Cooperative
- 1987 National Rural Health Network